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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
AMINZAY, SHAIMA Q	
ART UNIT	**PAPER NUMBER**
2684	

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/924,723	MIZUGUCHI, HIRONORI	
	Examiner	Art Unit	
	Shaima Q. Aminzay	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The following office action is in response to Amendment, filed August 11, 2004. Claims 1-34 have been amended, and claims 35-42 added new.

Claims 1-42 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action.

> (a) Patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (Admission), and in view of Beamish (Beamish et al. U. S. Patent 6256476 B1).

Regarding claims 35 and 40, Admission discloses a base station in a mobile communication system comprising (Figure 1, paragraphs [0035]-[0051]): a receiver which demodulates transmission signals transmitted from plural mobile stations (see for example, Figure 1 (receiver 11-1 (11-n)), paragraph [0040], lines

1-7, a receiver demodulates transmission signals transmitted from plural mobile stations (21-n)), and a transmitter (Figure 1 (16)), which transmits the transmission power control signal to the plural mobile stations (see for example, Figure 1 (16), paragraph [0045], lines 1-7, the transmitter (16) transmits the signal to the plurality mobile stations), and the transmission power control (Figure 1 (TPC Bit Generator, 14-1)) between the base station and the plural mobile stations in a mobile communication system (see for example, paragraph [0036], lines 6-12, [0037], lines 1-9), and transmission power control signal adjusting circuit (see for example, Figure 1 (14-1, 13-1), and paragraph [0043], lines 1-15, the SNR Determining Circuit (13-1) and the TCP bit generator (14-1) adjusting signal), which controls transmission power control signals so as to decrease the transmission power of the plural mobile stations (see for example, Figure 1 (14-1, 13-1), and paragraph [0043], lines 8-14, the TCP bit generator (14-1) and decreasing the transmission power of the plural mobile stations), and a transmitter (Figure 1 (16)) coupled to said transmission power control signal adjusting circuit (see for example, Figure 1 (16, 14-1, 13-1), transmitter (16), SNR Determining Circuit (13-1) and TCP Bit Generator (14-1), which transmits the transmission power control signal to the plural mobile stations (see for example, Figure 1 (16), paragraph [0045], lines 1-7, the transmitter (16) transmits the signal to the plurality mobile stations).

However, Admission does not specifically teach a communication state monitor which detects a deterioration [of a communication state of radio

communication between said base station and the plural mobile stations], and [a transmission power control signal adjusting] circuit coupled to said communication state monitor, [which controls transmission power control signals so as to decrease the transmission power of the plural mobile stations] if said communication sate monitor detects the deterioration.

In a related art dealing with transmission power control (see for example, column 1, lines 7-11), Beamish discloses a communication state monitor (see for example, Figures 3, 4B, and 5, column 4, lines 66-67 continued to column 5, lines 1-67, column 6, lines 1-8, column 7, lines 4-67continued to column 8, lines 1-67 continued to column 9, lines 1-10), which detects a deterioration [of a communication state of radio communication between said base station and the plural mobile stations] (see for example, column 7, lines 4-37, detects signal deterioration), [which controls transmission power control signals so as to decrease the transmission power of the plural mobile stations] if said communication sate monitor detects the deterioration (see for example, Figures 3A-3B (405), column 6, lines 39-48, and column 7, lines 6-9, communication state monitor and decreased transmission power).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Beamish's transmission power management of mobile station and base station (communication state monitor) with Admission's transmission power control system of mobile station and base station to provide a transmission power control system which increases the communication with the

base station, and further increases the connection capacity of a mobile system (Admission, paragraph [0051], lines 1-6), and to provide a transmission power control system which is capable of conserving battery power by reducing the power consumed by the mobile unit (Beamish, column 1, lines 54-58) and by minimizing "the amount of time the mobile unit transmits at the highest power level" (Beamish, column 1, lines 60-67).

Regarding claim 36, Admission in view of Beamish teach all the claimed limitation as recited in claim 35, Beamish further teaches communication sate monitor monitors an interference power of the transmission signal received and detects the deterioration of the communication sate based on the interference power (see for example, column 2, lines 24-32, column 8, lines 41-65).

Regarding claims 37 and 41, Admission discloses a mobile station (Figurer 1 (20-1) among plural mobile stations in a mobile communication system comprising (Figure 1, paragraphs [0035], lines 1-3, [0036], lines 1-6, [0038], lines 1-10, and paragraphs [0046] through [0050]): a transmitter which transmits a signal to a base station (see for example, Figure 1 (transmitter 25-1 (25-n)), paragraph [0038], lines 5-10, [0050], lines 1-3, a transmitter (25-1) transmits a signal to a base station (Figure 1 (10))), and a receiver which receives from the base station (see for example, Figure 1 (receiver 21-1 (21-n)), column [0038], lines 1-4, [046], lines 1-7, receiver (21-1) receives from the base station (Figure 1

(10))), and

a transmission power control signal directing to decrease a power of the signal to be transmitted to the base station (see for example, paragraph [0043], lines 9-14, decreasing power of signal to be transmitted to the base), and where [a deterioration of] a communication sate of radio communication between the base station and the plural mobile stations is detected at the base station (see for example, paragraph [0040] through [0044], the radio communication between the base station (10) and the plural mobile stations (20-n) and communication detection at the base station), and a transmission power controller (Figure 1 (24-1), Transmission Power Deciding Ckt #1 (#n)) which decides a transmission power of the signal to be transmitted to the base station based on the transmission power control signal (see for example, paragraph [0038], lines 4-10, [0043], lines 9-14, [0049], lines 1-3, the transmission power controller and deciding transmission power of a signal to be transmitted to the base station).

However, Admission does not specifically teach [where] a deterioration of [a communication sate of radio communication between the base station and the plural mobile stations is detected at the base station].

In a related art dealing with transmission power control (see for example, column 1, lines 7-11), Beamish discloses [where] a deterioration of [a communication sate of radio communication between the base station and the plural mobile stations is detected at the base station] (see for example, column 7, lines 4-37, detects signal deterioration).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Beamish's transmission power management of mobile station and base station (communication state monitor) with Admission's transmission power control system of mobile station and base station to provide a transmission power control system which increases the communication with the base station, and further increases the connection capacity of a mobile system (Admission, paragraph [0051], lines 1-6), and to provide a transmission power control system which is capable of conserving battery power by reducing the power consumed by the mobile unit (Beamish, column 1, lines 54-58) and by minimizing "the amount of time the mobile unit transmits at the highest power level" (Beamish, column 1, lines 60-67).

Regarding claim 38, Admission in view of Beamish teach all the claimed limitation as recited in claim 37, Beamish further teaches the [deterioration of the communication sate is detected] based on an interference power of [transmission signals from the plural mobile stations received by the base station] (see for example, column 2, lines 24-32, column 8, lines 41-65).

Regarding claims 39 and 42, Admission discloses a mobile communication system comprising a base station and plural mobile stations (Figurer 1, base station (10), and plural mobile stations (20-n)), and wherein said base station comprises (Figure 1(10)): a receiver which demodulates transmission signals

transmitted from said plural mobile stations (see for example, Figure 1 (receiver 11-1 (11-n)), paragraph [0040], lines 1-7, a receiver demodulates transmission signals transmitted from plural mobile stations (21-n)), and detection of a communication state of radio communication between said base station and said plural mobile stations (see for example, paragraph [0036], lines 6-12, [0037], lines 1-9, [0043], lines 9-14, radio communication between the base station and the plural mobile stations), and a transmission power control signal adjusting circuit (see for example, Figure 1 (14-1, 13-1), and paragraph [0043], lines 1-15, the SNR Determining Circuit (13-1) and the TCP bit generator (14-1) adjusting signal), and which controls transmission power control signals so as to decrease the transmission power of said plural mobile stations (see for example, Figure 1 (14-1, 13-1), and paragraph [0043], lines 8-14, the TCP bit generator (14-1) and decreasing the transmission power of the plural mobile stations), and a transmitter (Figure 1 (16)) coupled to said transmission power control signal adjusting circuit (see for example, Figure 1 (16, 14-1, 13-1), transmitter (16), SNR Determining Circuit (13-1) and TCP Bit Generator (14-1), which transmits the transmission power control signal to the plural mobile stations (see for example, Figure 1 (16), paragraph [0045], lines 1-7, the transmitter (16) transmits the signal to the plurality mobile stations), and each of said mobile stations comprises (Figurer 1 (20-n): a transmitter which transmits a signal to a base station (see for example, Figure 1 (transmitter 25-1 (25-n)), paragraph [0038], lines 5-10, [0050], lines 1-3, a transmitter (25-1) transmits a signal to a base

station (Figure 1 (10))), a receiver which receives one of the transmission power control signals from the base station (see for example, Figure 1 (receiver 21-1 (21-n)), column [0038], lines 1-4, [046], lines 1-7, receiver (21-1) receives transmission power control signals from the base station (Figure 1 (10))),; and a transmission power controller (Figure 1 (24-1), Transmission Power Deciding Ckt #1 (#n)) which decides a transmission power of the signal to be transmitted to said base station based on the transmission power control signal received by said receiver (see for example, paragraph [0038], lines 4-10, [0043], lines 9-14, [0049], lines 1-3, the transmission power controller and deciding transmission power of a signal to be transmitted to the base station).

However, Admission does not specifically teach a communication state monitor which detects a deterioration [of a communication state of radio communication between said base station and the plural mobile stations], and [which controls transmission power control signals so as to decrease the transmission power of the plural mobile stations] if said communication sate monitor detects the deterioration.

In a related art dealing with transmission power control (see for example, column 1, lines 7-11), Beamish discloses a communication state monitor (see for example, Figures 3, 4B, and 5, column 4, lines 66-67 continued to column 5, lines 1-67, column 6, lines 1-8, column 7, lines 4-67continued to column 8, lines 1-67 continued to column 9, lines 1-10), which detects a deterioration [of a communication state of radio communication between said base station and the

plural mobile stations] (see for example, column 7, lines 4-37, detects signal deterioration), [which controls transmission power control signals so as to decrease the transmission power of the plural mobile stations] if said communication sate monitor detects the deterioration (see for example, Figures 3A-3B (405), column 6, lines 39-48, and column 7, lines 6-9, communication state monitor and decreased transmission power).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Beamish's transmission power management of mobile station and base station (communication state monitor) with Admission's transmission power control system of mobile station and base station to provide a transmission power control system which increases the communication with the base station, and further increases the connection capacity of a mobile system (Admission, paragraph [0051], lines 1-6), and to provide a transmission power control system which is capable of conserving battery power by reducing the power consumed by the mobile unit (Beamish, column 1, lines 54-58) and by minimizing "the amount of time the mobile unit transmits at the highest power level" (Beamish, column 1, lines 60-67).

Regarding claims 1, and 22, Admission teaches a base station of a mobile communication system with a transmission power control system (Figure 1, paragraph [0036], lines 1-12, including transmission power control (TPC) 14-1 to

14-N).

However, Admission does not teach a communication monitor circuit for detecting quality deterioration of radio communication with mobile stations, wherein: said communication monitor circuit comprising: a monitor unit for monitoring a communication state of said radio communication, a judging unit connected to said monitor unit for judging whether said communication state monitored by said monitor unit is worse than a predetermined state, and a notifying unit connected to said judging unit for notifying an external circuit of said quality deterioration when said judging unit judges that said communication state is worse than said predetermined state.

Beamish teaches a communication monitor circuit for detecting quality deterioration of radio communication with mobile stations (see for example, Figures 4A-B, column 6, lines 9-17, and column 7, lines 4-6) comprising a monitor unit for monitoring a communication state of said radio communication (see for example, Figure 4B, and column 7, lines 4-14; 405 monitors the communication state to determine the signal quality), and a judging unit connected to said monitor unit for judging whether said communication state monitored by said monitor unit is worse than a predetermined state (see for example, Figure 4B, Fast Power Control (450) connected to the 405 through switch 410, and column 7, lines 9-15; column 2, lines 28-33; judgment is being made if the communication state is worse based on comparison to predetermined threshold), and a notifying unit connected to said judging unit for

notifying an external circuit of said quality deterioration when said judging unit judges that said communication state is worse than said predetermined state (see for example, Figure 4B, Medium/High Power (460) and High Power (425) notifying units make separate connection to the judging unit (450) through switch (455) for notifying the external circuit of the signal quality deterioration by setting Fast Power Condition (FPC) bits, Figure 3, 332; column 4, lines 66-67, column 5, lines 5-10, 56-65).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Beamish's power transmission management of mobile station and base station (see for example, column 1, lines 8-12) with Admission's power transmission control system of mobile station and base station (paragraph [0036], lines 1-5) to provide a transmission power control system which increases the communication with the base station, and further increases the connection capacity of a mobile connection system (Admission, paragraph [0051], lines 1-6), and to provide a transmission power control system which is capable of conserving battery power by reducing the power consumed by the mobile unit (Beamish, column 1, lines 54-58) and to minimize the amount of time the mobile unit transmits at the highest power level (Beamish, column 1, lines 60-67).

Regarding claims 6, 8, 9, 14, 16, 17, and 27-34, Admission disclose a base station of a mobile communication system with a transmission power control

system to control transmission power of mobile stations by use of transmission power control bit signals (Figure 1, paragraph [0036], lines 1-12, including transmission power control bit (TPC) 14-1 to 14-N), and the base station including receivers for demodulating transmission signals transmitted from said mobile stations to produce demodulated signals (Figure 1, paragraph [0040], lines 1-4, receiver 11-n and mobile station 20-n), signal-to-noise ratio determining circuits connected to said receivers respectively for determining signal-to-noise ratios of said demodulated signals (Figure 1, signal-to-noise-ration determining circuit (13-n) connected to the receiver (11-n); see for example, paragraph [0041], lines 1-3, and paragraph [0042], lines 1-4), and transmission power control bit generators connected to said signal-to-noise ratio determining circuits respectively for generating said transmission power control bit signals on the basis of said signal-to-noise rations (Figure 1, transmission power control bit (TPC) generators (14-1 to 14-N) connected to the signal-to-noise-ration determining circuit (13-n), see for example, paragraph [0042], lines 1-4).

However, Admission does not teach the base station comprising a communication state monitor circuit connected to the receivers for detecting quality deterioration of a communication state of radio communication between said base station and said mobile stations

, and a transmission power bit adjusting circuit connected to said quality deterioration detector and said transmission power control bit generators for controlling said transmission power control bit signals so as to suppress increase

of transmission power of said mobile stations when said quality deterioration detector detects said quality deterioration.

Beamish teaches the base station communication state monitor connected to the receiver for detecting quality deterioration of a communication state of radio communication between the base station and the mobile station (see for example, Figure1, column 3, lines 66 continued to column 4 lines 1-8; Figure 4B, and Figure 5 detect received signal quality deterioration, column 7, lines 56-63), and a transmission power bit adjusting circuit connected to said quality deterioration detector and the transmission power control bit generators for controlling transmission power control bit signals so as to suppress increase of transmission power of said mobile stations when said quality deterioration detector detects said quality deterioration (see for example, Figure 4B, and column 7, lines 4-37; 405 determines the communication state and transmission power bits (Figure 3, 332) connected to the quality deterioration detector (450) via 410 and connected to Medium/High (460) or High Power (425) via 455 to suppress increase of transmission power of the mobile stations when the quality deterioration detector detects said quality deterioration (for detailed adjustments of 332, see for example, Figure 3, column 4, lines 66-67 through column 5, lines 1-67, and column 6, lines 1-8, and a notifying unit connected to said judging unit for notifying an external circuit of said quality deterioration when said judging unit judges that said communication state is worse than said predetermined state (see for example, Figure 4B, Medium/High Power (460) and High Power (425)

notifying units make separate connection to the judging unit (450) through switch (455) for notifying the external circuit of the signal quality deterioration by setting Fast Power Condition (FPC) bits, Figure 3, 332; column 4, lines 66-67, column 5, lines 5-10, 56-65).

It would have been obvious to one of ordinary skill in the art at the time invention was made to combine Beamish's power transmission management of mobile station and base station (see for example, column 1, lines 8-12) with Admission's power transmission control system of mobile station and base station (paragraph [0036], lines 1-5) to provide a transmission power control system which increases the communication with the base station, and further increases the connection capacity of a mobile connection system (Admission, paragraph [0051], lines 1-6), and to provide a transmission power control system which is capable of conserving battery power by reducing the power consumed by the mobile unit (Beamish, column 1, lines 54-58) and to minimize the amount of time the mobile unit transmits at the highest power level (Beamish, column 1, lines 60-67).

Regarding claims 2, 3, 4, 5, 10, 11, 12, 13, 18, 19, 20, 21, 23, and 24-26, Admission, and Beamish teach claims 1, 9, 14, 22, and further Beamish teaches when the interference electric power is equal to or larger than a predetermined threshold (see for example, Figure 5, column 8, lines 59-65, and Figure 6, column 10, lines 16-19).

Regarding claims 7, and 15, Admission, and Beamish teach claims 6, 14, and further Beamish teaches when the interference electric power is equal to or less than a predetermined threshold (see for example, Figure 5, column 8, lines 41-45, and lines 57-58).

Response to Arguments

2. Applicant's arguments filed August 11, 2004 have been fully considered but they are not persuasive

3. The applicant (page 30) argued that the cited prior art Admission (admitted prior art) in view of Beamish (Beamish et al. U. S. Patent 6256476 B1) "fails to disclose or suggest all of the claim limitations. Specifically, with respect to the independent claims, at least the following limitations are not disclosed or suggested. 1. a communication monitor circuit for detecting quality deterioration of radio communication with mobile stations. 6. a communication state monitor circuit coupled to said receivers for detecting quality deterioration of a communication state of radio communication between said base station and said mobile stations. 14. a communication state monitor circuit coupled to said receivers for detecting quality deterioration of a communication state of radio

communication between said base station and said mobile stations. 22. monitoring, at said base station, a communication state of radio communication between said base station and said mobile stations. 27. detecting, at said base station, quality deterioration of a communication state of radio communication between said base station and said mobile stations". Examiner respectfully disagrees. As discussed in the rejected above (claims 1 and 22) Beamish teaches detecting quality deterioration of radio communication with mobile stations (see for example, Figures 4A-B, column 6, lines 9-17, and column 7, lines 4-6), and clearly shown detecting quality deterioration of radio communication by comparing to the predetermined value (see for example, Figure 6, column 9, lines 64-67 continued to column 10, lines 1-9) [where is defined in the specification, communication and predetermined values]. As discussed in the rejected above (claims 6, 14, and 27) detecting quality deterioration of a communication state of radio communication between the base station and the mobile station (see for example, Figure1, column 3, lines 66 continued to column 4 lines 1-8; Figure 4B, and Figure 5 detecting received signal quality deterioration, column 7, lines 56-63) [where is defined in the specification, communication and predetermined values].

Therefor, Examiner believes the claims are broad enough to combining the Beamish's power management circuit with Admissions transmission power control system to provide the transmission power control system with signal quality deterioration detection. The rejection is maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shaima Q. Aminzay whose telephone number is 703-305-8723. The examiner can normally be reached on 7:00 AM -5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shaima Q. Aminzay

(Examiner)

NICK CORSARO
PRIMARY EXAMINER

Nay Maung

(SPE)

Art Unit 2684

December 24, 2004